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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,928	08/04/2003	Keigo Maki	P/2850-81	4958

7590 10/23/2006

Attention: Robert C. Faber  
OSTROLENK, FABER, GERB & SOFFEN  
1180 Avenue of the Americas  
New York, NY 10036-8403

EXAMINER

MACARTHUR, SYLVIA

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/633,928

**Applicant(s)**

MAKI, KEIGO

**Examiner**

Sylvia R. MacArthur

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/4/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### Request for Continued Examination (RCE)

1. The request filed on 8/2/2006 is acceptable and an RCE has been established. An action on the RCE follows.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koshiishi et al (US 2003/0106647) in view of Hirada et al.

Koshiishi teaches a ceramic base body (holder main body 11) see [0030], an inner electrode, an electricity supply terminal (13), an insulating sprayed layer see [0031], a temperature control part (temperature adjusting mechanisms [0038], and the insulating layer are connected by a bonding agent layer 14b. The base body and temperature control part are formed unitarily, see Fig.1. Koshiishi further teaches a convex section 12 and a concave section 11.

Regarding the insulating layer being formed by spray or specifically a plasma jet method, this is a matter of a product by process limitation and is not given patentable weight. The layer is obviously capable of being formed by spray or specifically a plasma jet method.

Regarding claims 1 and 3: Koshiishi fails to teach that the insulation sprayed layer has a thickness in the range of 20 micrometers to 500 micrometers.

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Hirada et al teaches an electrostatic chuck with an inner electrode 4 and insulating layers 3,4 cover the electrode. Col. 3 lines 25-33 teach that the spray-coated layers have thickness of 30-300 microns.

The motivation to provide the apparatus of Koshiishi modified by Hirada to form the insulating layers by spraying and to provide the layers at a thickness within the range of 20 to 500 microns is that this range is a matter of optimizing the layer thickness to provide high productivity and good coating adhesion property as cited in col.3 lines 4-11 of Hirada et al. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to provide the insulating coating by using a spraying method to achieve a thickness within the range of 20 to 500 microns. Furthermore, it is well settled that the determination of optimum values of cause effective variables such as film thickness is within the skill of one practicing in the art, In re Boesch, 205 USPQ 215 (CCPA 1980).

Regarding claim 5: This claimed is interpreted as a product by process claim the insulation layer of Koshiihi is a sprayed layer, the process used to spray the layer does not structurally limit the layer of Koshiihi. Additionally, plasma-jet spraying is among the specific types of spray coating cited in col.3 lines 60-67 of Hirada et al. The motivation to use the plasma jet spraying method of Hirada et al is that it a suitable method of forming a thin layer as demonstrated in the prior art of Hirada et al thus the insulation layer will provide the necessary insulation to the susceptor while maintaining the temperature control due to the thin layer formed.

Regarding claim 6: Koshiihi et al teaches that the sprayed layers comprise alumina according to [0032].

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4. Claims 1, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanno et al (US 6,677,167) in view of Hirada et al.

Kanno et al teaches a ceramic base body (wafer stage 52/77 is aluminum with a ceramic coating, see col. 8 lines 13-18), an inner electrode 34 (see col. 13 lines 18-29), an electricity supply terminal (37), an insulating sprayed layer 79, a temperature control part (temperature adjusting mechanisms [0038], and the insulating layer are connected by a bonding agent layer 14b. The base body and temperature control part are formed unitarily, see col. 14 lines 20-30. Kanno the base 52/77 is interpreted as the concave section, while the susceptor 28/28' is interpreted as the convex section. Fig. 9 of Kanno features layer 21 as a sprayed insulation layer according to col.3 lines 26-37.

Regarding the insulating layer being formed by spray or specifically a plasma jet method, this is a matter of a product by process limitation and is not given patentable weight. The layer is obviously capable of being formed by spray or specifically a plasma jet method. Regarding claims 1 and 3: Kanno fails to teach that the insulation sprayed layer has a thickness in the range of 20 micrometers to 500 micrometers.

Hirada et al teaches an electrostatic chuck with an inner electrode 4 and insulating layers 3,4 cover the electrode. Col. 3 lines 25-33 teach that the spray-coated layers have thickness of 30-300 microns.

The motivation to provide the apparatus of Kanno et al modified by Hirada to form the insulating layers by spraying and to provide the layers at a thickness within the range of 20 to 500 microns is that this range is a matter of optimizing the layer thickness to provide high productivity and good coating adhesion property as cited in col.3 lines 4-11 of Hirada et al. Thus,

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it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to provide the insulating coating by using a spraying method to achieve a thickness within the range of 20 to 500 microns. Furthermore, it is well settled that the determination of optimum values of cause effective variables such as film thickness is within the skill of one practicing in the art, *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Regarding claim 5: This claimed is interpreted as a product by process claim the insulation layer of Kanno is a sprayed layer, the process used to spray the layer does not structurally limit the layer of Kanno. Additionally, plasma-jet spraying is among the specific types of spray coating cited in col.3 lines 60-67 of Hirada et al. The motivation to use the plasma jet spraying method of Hirada et al is that it a suitable method of forming a thin layer as demonstrated in the prior art of Hirada et al thus the insulation layer will provide the necessary insulation to the susceptor while maintaining the temperature control due to the thin layer formed.

Regarding claim 6: Kanno fails to teach the materials of construction as recited in claim 6. However, Hirada et al in col.4 lines 19-56 teaches that alumina is used as the material to form the sprayed insulation films. The motivation to use alumina as the material of construction is that it has good adhesion properties, as is a desirable property for the sprayed insulation layer according to col. 3 lines 4-10.

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1,3, 5, and 6 have been considered but are moot in view of the new ground(s) of rejection. The prior art of Koshiihi and Kanno et al both teach susceptor devices with the newly presented structural limitations a convex fitting section

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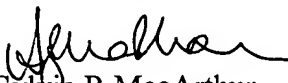
and a concave fitting section. Applicant's arguments regarding the double patenting rejections were persuasive and thus the obvious double patenting rejections are withdrawn.

*Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-F during the core hours of 7:30 a.m. and 4 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sylvia R MacArthur  
Patent Examiner  
Art Unit 1763

October 16, 2006